Goal Ensure Environmental Protection and Sensitivity

Deliver sustainable transportation infrastructure improvements that protect and reduce impacts to Maryland’s natural, historic, and cultural resources

OBJECTIVES:

- Protect and enhance the natural, historic, and cultural environment through avoidance, minimization, and mitigation of adverse impacts related to transportation infrastructure, including support for broader efforts to improve the health of the Chesapeake Bay

- Employ resource protection and conservation practices in project development, construction, operations, and maintenance of transportation assets

- Implement initiatives to reduce fossil fuel consumption, mitigate Greenhouse Gas (GHG), and improve air quality

MDOT continues to streamline its business processes, minimizing any adverse impacts on the environment, while conserving natural resources, and integrating sustainability into various aspects of transportation systems at the policy, program, and project levels of implementation. MDOT has a well-rounded approach to environmental stewardship spanning a range of natural resources including air, land, and water. MDOT actions encompass climate change mitigation by reducing GHG emissions, increasing climate adaptation and resiliency, and conservation of resources for a sustainable agency operations and service delivery. MDOT’s Transportation Business Units (TBUs) continue to reduce effects of transportation and the built-environment by way of effective planning, creative, and interdisciplinary approaches to project delivery and collaboration.

MDOT’s commitment to environmental initiatives has been demonstrated in the form of policies, programs, initiatives, and project level actions. Examples include MDOT MPA’s renewal and expansion of a voluntary memorandum of understanding (MOU), which calls for a continued committed effort to reduce diesel and GHG emissions and increase energy efficiency at the Port of Baltimore. This renewed commitment extends the original MOU signed five years ago adding the Maryland Energy Administration (MEA) as a new partner. Elements of the commitment include reduction of diesel emissions, creative reuse of dredged material, and projects like the Howard Street Tunnel expansion, which will increase rail capacity and reduce truck fuel consumption.

Another unique and innovative example of an MDOT environmental initiative is the completion of the state’s first Public-Private Partnership (P3) to deliver “smart ponds” that use advanced stormwater control technology to reduce pollutants and curb local flooding at three sites across Maryland. The “smart pond” technology, which regulates the flow of water from stormwater management sites, was installed at Walmart stores in Fruitland, Aberdeen, and Hagerstown. The P3 that led to the project is the first of its kind involving a state transportation department in the U.S. and could be replicated elsewhere in the Mid-Atlantic and across the country.

MDOT continues to contribute towards interagency efforts to revise the Adaptation and Resilience Strategic Framework, ensuring that Maryland transportation goals, strategies, and activities were reflected in sections on critical infrastructure, water, public health, environmental justice, local governments activities, working lands, and ecosystems. MDOT SHA participated in the Governor-proclaimed Maryland Flood Awareness Month April 2021, partnering with various state agencies to raise awareness about the many flood hazards faced by individuals and communities across the state.

MDOT has continued to develop and share vulnerability assessment data and resiliency plans to address the impacts of climate change and how that will affect the transportation network. MDOT SHA advanced strategic climate and extreme weather risk and resiliency concepts by drafting the MDOT SHA Climate Resilience Strategy document on behalf of seven MDOT SHA offices, Planning, Design, and Maintenance and Operations. MDOT MAA is in the process of upgrading multiple electric substations to provide both additional capacity and circuit redundancy to the critical airfield navigation and lighting systems to ensure operational resiliency of BWI Marshall Airport for the public air travel and air cargo needs of the state. MDOT MVA is developing a risk profile to help identify, track, and prioritize risks that could affect its critical assets and impact its ability to provide services to its customers. This risk profile will integrate climate adaptation and resilience into MDOT MVA’s assessment plan and business processes. MDOT MPA received a grant of $10 million in federal funds to help protect the Dundalk Marine Terminal against severe weather, sea-level rise, and other potential climate change impacts. The funds from the U.S. Department of Transportation’s (U.S. DOT) Better Utilizing Investments to Leverage Development (BUILD) transportation grant program, will help advance MDOT MPA’s $36.7 million Resiliency and Flood Mitigation Improvement project at the Marine Terminal.

MDOT leads by example in its solar program with the potential to install photovoltaic (PV) systems on more than 874 facilities it owns or controls. MDOT currently has five PV systems installed on its properties at MDTA, MDOT MAA, MDOT MTA, and MDOT MPA, with a total installed capacity of 1.8 megawatts. MDOT makes a continued commitment to environmental compliance, enhances improvement of its environmental performance through established and innovative processes, and adherence to sustainable practices. It continues to work with partners, stakeholders, and the public to maintain outreach and communication about its environmental activities.
MDOT MAA: Working collaboratively with the Maryland Department of Natural Resources (MDNR), MDOT MAA is in the process of finalizing a Forest Conservation Easement (FCE) of more than 122 acres that encompass 84 acres of wetlands of special state concern (WSSC). Once finalized, the FCE benefits rare, threatened, and endangered (RTE) species located within the easement and MDOT MAA by serving as a forest mitigation “bank” to support ongoing airport development. In May 2021, MDOT MAA and Baltimore Gas and Electric (BGE) installed new electric vehicle charging stations at BWI Marshall Airport. The four new DC Fast Charging (DCFC) stations, located in the airport’s cell phone lot, will allow motorists to charge their electric vehicles while waiting for airline passengers to arrive at the airport. The four new state-of-the-art, 150kW DCFC charging stations provide up to an 80% charge in as little as 15 minutes. The fast chargers are the first of this speed and capacity that BGE is installing in Maryland. The utility company has placed six additional DCFC stations at BWI Marshall Airport. In July 2021, CI Renewables (formerly KDC Solar) with solar energy generation estimates at 44 million kilowatt hours (kWh) per year, making this the largest Power Purchase Agreement for solar energy in Maryland. MDOT continued efforts towards E.O. 01.01.2019.08 Energy Savings Goals for State Government, through MDOT building energy use reduction. GHG emissions generated at MDOT facilities decreased by approximately 19% from CY 2018 to CY 2020. In July 2021, the U.S. Army Corps of Engineers received Congressional approval to reprogram federal funds ($1.5 million) towards completion of the Baltimore Coastal Storm Risk Management Study. Work on this study has resumed.

MDOT TSO: All six Master Service Agreements (MSAs) with the Qualified Master Contractors have been successfully amended to increase the term from five years to 30 years. Howard County, MD successfully used the MDOT Solar Master Contract to issue a Task Order for solar development within the county. A contract was awarded to CI Renewables (formerly KDC Solar) with solar energy generation estimates at 44 million kilowatt hours (kWh) per year, making this the largest Power Purchase Agreement for solar energy in Maryland. MDOT continued efforts towards E.O. 01.01.2019.08 Energy Savings Goals for State Government, through MDOT building energy use reduction. GHG emissions generated at MDOT facilities decreased by approximately 19% from CY 2018 to CY 2020. In July 2021, the U.S. Army Corps of Engineers received Congressional approval to reprogram federal funds ($1.5 million) towards completion of the Baltimore Coastal Storm Risk Management Study. Work on this study has resumed.

MDOT MTA: In the strategic plan, MDOT MTA outlines four commitments to planning for a sustainable future. The first commitment is to develop and implement fare payment options that allow all residents to pay their fare regardless of their banking status or technology access. The second commitment is to seek funding and partnering opportunities to enhance and expand the transit system. The third commitment is to continue conserving resources to promote environmental stewardship. These efforts are focused on water reclamation and transitioning to electric vehicles (EVs). The fourth commitment is to transform the bus fleet to zero-emission vehicles (ZEVs). This effort is in support of the state’s goal of reducing GHG emissions by 40% by 2030.

MDTA: The Office of Environment, Safety and Risk Management (OESRM) is performing audits of trash and recycling services at all MDTA facilities. These audits will allow MDTA to identify modifications to service schedules that can be made to more accurately reflect each locations’ needs. Simultaneously, OESRM is evaluating alternative methods for waste reduction to further the agency’s sustainability efforts. Examples include determining the possibility of recovering used oil for internal heating uses and food waste recovery options. During the last year, MDTA has evaluated the potential to reduce salt usage during winter operations, expanding education (statewide) to reduce the number of drive-offs and releases at MDTA fueling sites, and implementing a meaningful oil-water separator (OWS) management program. The Asset Control & Damage Recovery (ACDR) group is developing a tracking tool to adequately document and capture environmental costs related to third-party accidents that occur on MDTA roadways, tunnels, and bridges. The implementation of this tool allows MDTA to recover costs associated with waste characterization and waste disposal costs through its insurance claim recovery process.

MDOT MPA: MDOT MPA and the U.S. Army Corps of Engineers completed the Poplar Island Ecosystem Restoration Project lateral expansion, which will provide 575 additional acres for dredged material placement, adding 28 million cubic yards (mcy) of storage capacity. The project is now able to accept dredged material, serving as a critical role in maintaining the 50-foot-deep channels leading to the Port of Baltimore.

MDOT MPA received a grant from the MEA’s Resilient Maryland Program to develop a feasibility study that investigated microgrid options, looking at wind, solar, batteries, and fuel cells at the Dundalk Marine Terminal. MDOT MPA received a grant of $10 million in federal funds to help protect the Dundalk Marine Terminal against severe weather, sea level rise, and other potential climate change impacts. The funds from the U.S. DOT’s BUILD transportation grant program, will help advance MDOT MPA’s $36.7 million Resiliency and Flood Mitigation Improvements project at the Dundalk Marine Terminal. MDOT MPA installed new LED lighting inside four sheds at the Dundalk Marine Terminal in preparation for use by the Port’s tenants. The LED upgrades reduce electricity usage, increase worker safety, and help to lower GHG emissions.

MDOT MVA: In 2021, MDOT MVA revamped its website to provide customers more detailed information about services available online and services available in the branch offices. Providing this information allowed customers to complete more transactions online, which increased the number of customers served and limited the amount of people visiting MDOT MVA offices during the pandemic. COVID-19 forced a two-week shutdown of MDOT MVA offices in late 2020 and early 2021. During this shutdown, MDOT MVA kept self-serve kiosks and 24-hour kiosks open so customers could complete their vehicle emissions testing.

MDOT SHA: MDOT SHA is working in partnership with MDOT to identify numerous sites within MDOT SHA right-of-way (i.e. MDOT SHA Park-and-Rides, truck parking, weigh stations, and facilities) that are suitable for solar installation. The installation of solar infrastructure on or near MDOT SHA properties will reduce electrical pressure on the grid, reduce GHG emissions and provide a set utility cost for a more than 20-year contract providing a cost saving to the agency. MDOT SHA established an EV Working Group in March 2021 to identify and review opportunities to incorporate EV charging infrastructure at MDOT SHA Park-and-Ride locations to further offer alternative energy solutions available to the public.
OBJECTIVE:
Protect and enhance the natural, historic, and cultural environment through avoidance, minimization, and mitigation of adverse impacts related to transportation infrastructure, including support for broader efforts to improve the health of the Chesapeake Bay

ACRES OF WETLANDS OR WILDLIFE HABITAT CREATED, RESTORED, OR IMPROVED*

MDOT agencies are in compliance with the various permits that are granted to construct projects needed to improve the transportation system on land and offshore.

WHY DID PERFORMANCE CHANGE?
- MDOT MPA was awarded an American Association of Port Authorities Award of Excellence for Environmental Mitigation for a demonstration project that removes excess nutrient pollution and increases oxygen content in the Baltimore Harbor
- MDOT MPA installed a stormwater management system at Fairfield Marine Terminal that employs a large underground sand filter that absorbs and treats runoff from the terminal’s 14 acres

WHAT ARE FUTURE PERFORMANCE STRATEGIES?
- Continue operations of the Diesel Equipment Upgrade Program, through which the Port of Baltimore replaces older diesel-powered equipment with newer, more-efficient versions; since 2008, the program has resulted in emissions reductions of 3,304 tons of nitrogen oxide, 922 tons of carbon monoxide, 165 tons of particulate matter, and 141 tons of hydrocarbons
- Continue to partner the dredging needs with environmental restoration of uplands and wetlands, similar to recent efforts on Poplar Island

WATER QUALITY TREATMENT TO PROTECT AND RESTORE THE CHESAPEAKE BAY***

This measure tracks MDOT compliance with achieving impervious surface restoration as required by the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit.

WHY DID PERFORMANCE CHANGE?
- MDOT SHA continued implementation of stormwater management and water quality improvement projects and exceeded its FY 2020 goal (20%) by treating 175% of its impervious surfaces not previously treated by stormwater management controls
- Approximately 8,100 impervious acres were treated by MDOT SHA through October 8, 2020, to reduce pollution entering local waterways and ultimately the Chesapeake Bay

WHAT ARE FUTURE PERFORMANCE STRATEGIES?
- MDOT SHA’s current NPDES MS4 permit expired on October 9, 2020, but coverage has been administratively continued until the Maryland Department of the Environment (MDE) issues the next generation NPDES MS4 permit

* Acres created, restored, or improved depend on the amount of mitigation obligated by project permits in a given year, as well as the construction completion date for the mitigation projects. Data is a sum of acres of wetlands or wildlife habitat created, restored, or improved by MDTA, MDOT MPA, or MDOT SHA.

** Restoration BMPs have changed, resulting in additional credits for previous years, causing past data to change to reflect the updated BMPs.

*** Data is reported cumulatively.
**OBJECTIVE:**
Employ resource protection and conservation practices in project development, construction, operations, and maintenance of transportation assets

**RECYCLED/REUSED MATERIALS FROM MAINTENANCE ACTIVITIES AND CONSTRUCTION/DEMOLITION PROJECTS***

For years, MDOT has been working to minimize waste, reuses materials, and reduce GHG emissions through energy efficiencies and alternative energy sources. These combined efforts will save money and make Maryland communities more livable for decades to come. These efforts combined with policy initiatives from other state departments will maximize investments in the environment and economy.

**WHY DID PERFORMANCE CHANGE?**
- Reclaimed asphalt pavement (RAP) numbers were down in 2020; MDOT expects the figures to follow the same trend until CY 2022 because of our decreased budgets and reduced tonnages overall
- Recycled concrete graded aggregate base (RC-GAB) fluctuated significantly due to changes in planned construction projects
- COVID-19 brought changes to the budget, project priorities, and safety protocols that impacted overall maintenance activities

**WHAT ARE FUTURE PERFORMANCE STRATEGIES?**
- Share specifications and allow contractors to use RC-GAB without any additional approvals
- RC-GAB is difficult to predict because it relies on new projects; it is not used in common resurfacing projects

**UTILITY ELECTRICITY USE AND RENEWABLE ENERGY GENERATION**

MDOT is committed to reducing electricity consumption through efficiency measures and renewable energy sources to help Maryland reach its clean energy and GHG reduction goals. Reducing energy consumption and generating renewable energy can save Maryland taxpayers money, generate revenue, and decrease harmful air emissions. MDOT measures both the consumption of utility energy and the amount of renewable energy generated by MDOT.

**WHY DID PERFORMANCE CHANGE?**
- Usage of utility generated electricity continues to decline through the deployment of energy efficiency strategies that include alternative energy sources such as solar and policies that encourage energy conservation
- The reduction in electricity use translated into a direct savings of approximately $3.4 million from FY 2019 to FY 2020, and $1.8 million from FY 2020 to FY 2021
- MDOT extended MSAs from five years to 30 years for six qualified contractors to design, construct, commission, finance, operate, and maintain PV energy facilities at MDOT locations

**WHAT ARE FUTURE PERFORMANCE STRATEGIES?**
- A Task Order Request for Proposal (RFP) is currently under development for solar installation at multiple MDOT MTA Park-and-Ride facilities across the state
- MDOT SHA and MDOT MAA are also working on a siting analysis for solar development through the MDOT-issued Master Solar Contract

*Recently, more data sources have become available that have increased the historic recycled metals figures.

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<table>
<thead>
<tr>
<th>MEGAWATT HOURS IN THOUSANDS (FY)</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019*</th>
<th>2020</th>
</tr>
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<tbody>
<tr>
<td>Electricity Use</td>
<td>384</td>
<td>364</td>
<td>379</td>
<td>367</td>
<td>338</td>
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<tr>
<td>Renewable Energy Generation</td>
<td>1.998</td>
<td>1.629</td>
<td>1.431</td>
<td>1.275</td>
<td>1.127</td>
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</table>

*2019 has been revised from previous report.
OBJECTIVE:
Implement initiatives to reduce fossil fuel consumption, mitigate greenhouse gases, and improve air quality

TRANSPORTATION-RELATED EMISSIONS BY REGION*

Emission reduction strategies foster transportation alternatives to single occupancy vehicles, including bicycle and pedestrian projects, transit improvements, and travel demand management strategies, such as telecommuting, alternative work schedules, and carpooling, promoted through our Commuter Choice Maryland program. Providing reliable, safe transportation options through these alternatives to driving will reduce fuel consumption, improve air quality, and improve public health.

WHY DID PERFORMANCE CHANGE?
- MDOT continues to implement emission-reduction strategies in Ozone non-attainment areas in partnership with Metropolitan Planning Organizations (MPOs)
- Motor vehicle emissions continue to decrease through the U.S. Environmental Protection Agency (EPA) Tier 3 Motor Vehicle Emission and Fuel Standards Program; the standards began in 2017 and will reduce ozone pollutants (NOx and VOC) by 80%, fine particulates (PM2.5) by 70%, and sulfur in gasoline by 60%
- Through the Congestion Mitigation and Air Quality (CMAQ) program, MDOT invested more than $28 million on five new projects in federal FY 2020, and more than $17 million on continuing projects; CMAQ funding supported transit improvements, bus replacements, and ride sharing investments
- In the Baltimore region, MDOT MTA completed a zero-emission transition study and initiated pilot projects for electrifying transit buses; these projects were a small part of a larger effort to meet GHG emission goals and transition to a zero-emission bus fleet
- In the Washington region, MDOT continued to invest in bicycle and pedestrian projects with grant awards to local jurisdictions through the Transportation Alternatives and Kim Lamphier Bikeways Network programs

WHAT ARE FUTURE PERFORMANCE STRATEGIES?
- The basis for 2020 regional emission estimates is the National Emissions Inventory (NEI); the 2020 NEI is underway in 2021 utilizing the updated MOVES3 model

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
<th>REGION</th>
<th>2008</th>
<th>2011</th>
<th>2014</th>
<th>2017</th>
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</thead>
<tbody>
<tr>
<td>Volatile Organic Compound (VOC) Tons per Day</td>
<td>Baltimore</td>
<td>52.8</td>
<td>45.5</td>
<td>41.3</td>
<td>25.9</td>
</tr>
<tr>
<td></td>
<td>Washington**</td>
<td>44.2</td>
<td>39.2</td>
<td>35.4</td>
<td>23.9</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>25.8</td>
<td>20.7</td>
<td>21.1</td>
<td>13.4</td>
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<tr>
<td>Nitrogen Oxide (NOx) Tons per Day</td>
<td>Baltimore</td>
<td>107.8</td>
<td>89.5</td>
<td>79.5</td>
<td>53.7</td>
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<td></td>
<td>Washington**</td>
<td>84.0</td>
<td>74.4</td>
<td>63.3</td>
<td>45.3</td>
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<tr>
<td></td>
<td>Other</td>
<td>52.7</td>
<td>44.4</td>
<td>44.2</td>
<td>32.8</td>
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<td>Carbon Monoxide (CO) Tons per Day</td>
<td>Baltimore</td>
<td>541.9</td>
<td>445.1</td>
<td>431.8</td>
<td>365.0</td>
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<td></td>
<td>Washington**</td>
<td>433.4</td>
<td>363.6</td>
<td>352.6</td>
<td>335.5</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>273.2</td>
<td>202.4</td>
<td>229.1</td>
<td>180.1</td>
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<tr>
<td>Particulate Matter (PM2.5) Tons per Day</td>
<td>Baltimore</td>
<td>4.6</td>
<td>3.5</td>
<td>3.4</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Washington**</td>
<td>3.6</td>
<td>2.9</td>
<td>2.7</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1.9</td>
<td>1.4</td>
<td>1.5</td>
<td>1.1</td>
</tr>
</tbody>
</table>

* All emission estimates developed as part of the USEPA’s National Emissions Inventory (NEI). The NEI is published every three years, 2020 data will be available in 2022.
** All Washington data represents Maryland’s share of emissions in the Washington region non-attainment areas, including Charles, Frederick, Montgomery, and Prince George’s counties.
WHY DID PERFORMANCE CHANGE?

- MDOT completed the MDOT Greenhouse Gas Reduction Act (GGRA) Plan, a component of the Maryland 2030 GGRA Plan, to reduce statewide GHG emissions by 40% from 2006 levels by 2030.
- Vehicle Miles Traveled (VMT) dropped dramatically in 2020 due to restricted travel associated with the COVID-19 pandemic; VMT is rebounding in 2021, but was still 10% below 2019 levels at mid-year.
- The state’s workforce continued to telework at higher levels in 2021 than pre-2020.
- Through the Commuter Choice program, MDOT continues to promote incentives, programs, and resources to employers and commuters to reduce congestion.
- MDOT’s leadership of the Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) continues to promote the build-out of EV infrastructure and the transition to ZEVs; with ZEEVIC, MDOT is monitoring developments in Hydrogen Fuel Cell ZEV technologies.

WHAT ARE FUTURE PERFORMANCE STRATEGIES?

- MDOT committed to a suite of strategies to reduce GHG emissions in the MDOT GGRA Plan, a component of the Maryland 2030 GGRA Plan; strategies address transportation technologies, congestion mitigation, VMT reduction, and infrastructure design.
- Reducing GHG in the transportation sector relies on MDOT’s continued efforts to reduce VMT, mitigate congestion, improve travel efficiency, improve travel choices, and incorporate new technology.

TRANSPORTATION-RELATED GREENHOUSE GAS (GHG) EMISSIONS

On-road mobile emissions come from vehicles operating on the roadways. Reducing these emissions is a priority for MDOT. This work includes using more efficient or ZEVs, encouraging residents to take less trips or utilize other modes of transportation outside of driving, and improving the overall efficiency of the transportation system.

** Target: 25% below 2006 emissions by 2020. For on-road transportation, the goal equals 23.5 mmt CO2e in 2021 and 40% below 2006 emissions by 2030.

* The MDOT-selected GHG emission reduction goal is consistent with the statewide target set in the 2009 Greenhouse Gas Reduction Act and the subsequent 2016 Greenhouse Gas Reduction Act reauthorization.

** MMT CO2e stands for million metric tons of carbon dioxide equivalents, the standard unit of measurement for GHG emissions. Emissions are calculated using the most recent data and version of EPA’s moves model available at time of analysis. MOVES2014a is used for analysis year 2016, 2017, 2018, and 2019. HPMS VMT.

*** 2020 data has been revised from previous report.
American Council for an Energy Efficient Economy (ACEEE) ranked Maryland 4th in the 2021 State charging points per 100,000 vehicles and 724.5 charging points per 1,000 EVs. Also in 2021, Utah, Massachusetts, and Hawaii ranked higher. Vermont, the highest-rated state has 123.6 charging points per 100,000 vehicles and 724.5 charging points per 1,000 EVs. Also in 2021, the American Council for an Energy Efficient Economy (ACEEE) ranked Maryland 4th in the 2021 State Transportation Electrification Scorecard.

**WHY DID PERFORMANCE CHANGE?**
- Maryland now has 22 EV Alternative Fuel Corridors (EV-AFCs); EV drivers can find publicly accessible EV charging stations within five miles of EV-AFCs.
- The number of publicly accessible EV charging stations in Maryland had grown to 1,072 stations and 2,815 outlets by the end of September 2021.
- Maryland utility companies offer rebates and incentives to residential and commercial customers to install EV charging and rebates are also available through state programs.
- MDOT and Maryland Department of Planning (MDP) held three public workshops with local jurisdictions about connected and automated vehicles (CAV), resources available and what jurisdictions were looking for to help advance CAV across the state.

**WHAT ARE FUTURE PERFORMANCE STRATEGIES?**
- Continue collecting data on ZEV adoption and charging station utilization; monitor impacts to MDOT revenues and energy networks.
- Through a pilot program authorized by the Public Service Commission (PSC), Maryland’s public utilities are installing EV charging stations at sites across the state; up to 900 charging stations are in the process of being installed on government-owned public property, including 24 MDOT-owned sites.
- Two MDOT work places were awarded grant funding (VW Settlement funds through the MDE Charge Ahead Grant Program (CAGP)) for the installation of Level-2 charging stations; this will enable the installation of four chargers at the MDOT MVA Glen Burnie location, and six chargers at the MDOT MAA Materials Acquisition Center (MAC) location.
- In 2021, Maryland passed legislation that requires at least 25% of passenger vehicles purchased in FY 2022 for the state vehicle fleet be ZEVs.
- Expand the number of connected vehicle roadside units that broadcast signal phase and timing, pedestrian warning, MAP messages, traveler and/or information messages over a mix of DSRC and LTE C-V2X radio technology.

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*2018, 2019, and 2020 data are through June 30 of their respective years. Previous reports indicated the data was through July 31.

** BEV = Battery Electric Vehicles; PHEV = Plug-In Hybrid Electric Vehicles
**WHY DID PERFORMANCE CHANGE?**

- In response to COVID-19, MDOT MVA VEIP stations were shut down for several months in 2020 and 2021.
- The operation shutdowns created a backlog of vehicles that didn’t go through testing on their regular schedules.
- When VEIP stations closed for two weeks in December 2020 and January 2021, MDOT MVA kept open the 24-hour kiosks and self-serve kiosks to provide customers with testing options.

**WHAT ARE FUTURE PERFORMANCE STRATEGIES?**

- The ability of VEIP stations to stay open and eliminate the backlog is unknown based on the uncertainties surrounding COVID-19 and the emerging variants of COVID-19.
- If VEIP stations are closed again, MDOT MVA will replace the operations procedures enacted during the December 2020 and January 2021 closures to try to give customers some options for testing while in-person appointments are not available.

Monitoring the VEIP testing compliance rate ensures system effectiveness and identifies vehicles exceeding allowable standards. Tracking the average wait time at VEIP stations ensures that the 15-minute average wait time requirement is met. Timely and efficient customer service helps the state meet federal clean air standards by identifying polluting vehicles and encouraging regular vehicle maintenance.